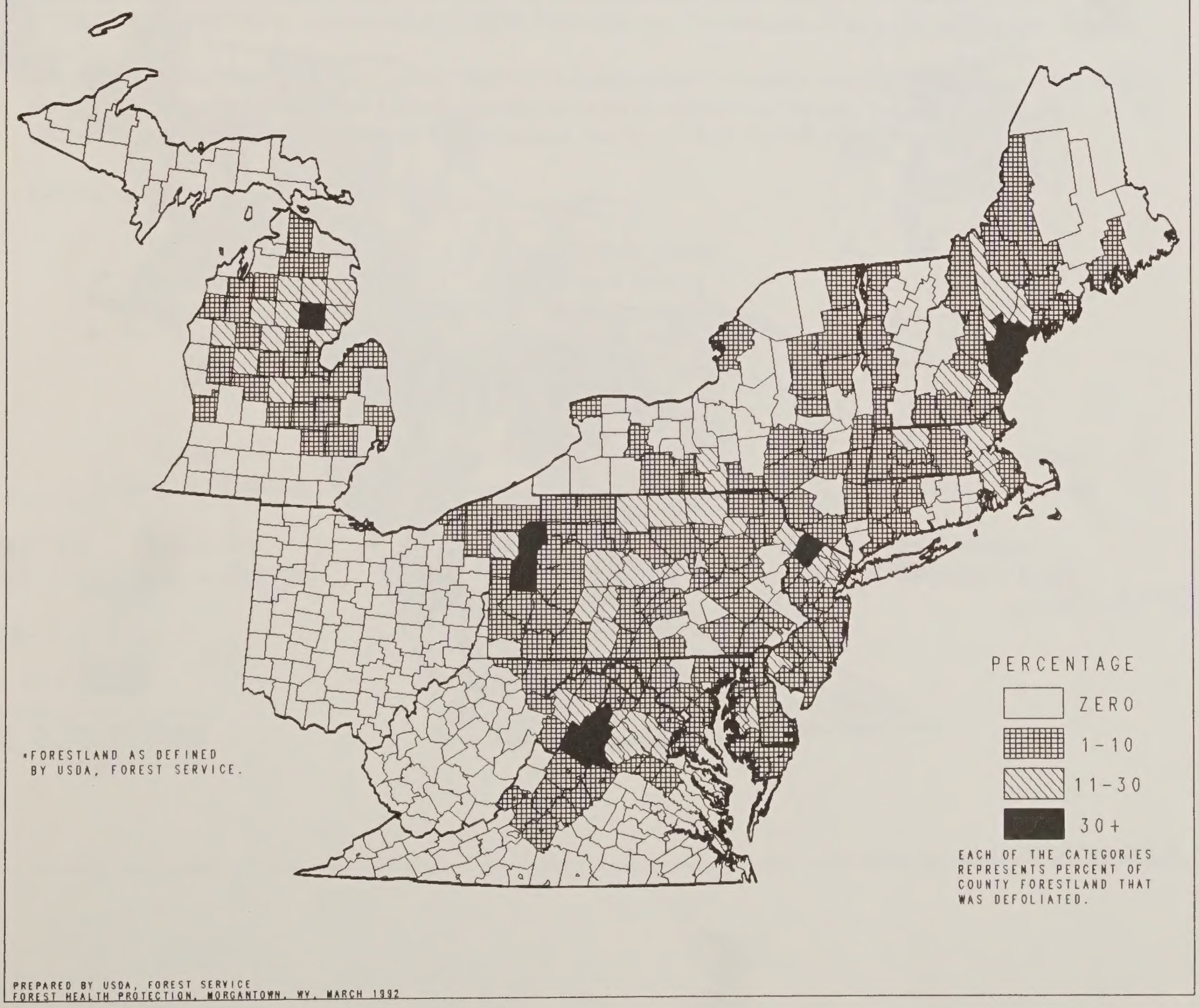
GYPSY MOTH NEWS

United States Department of Agriculture
Forest Service

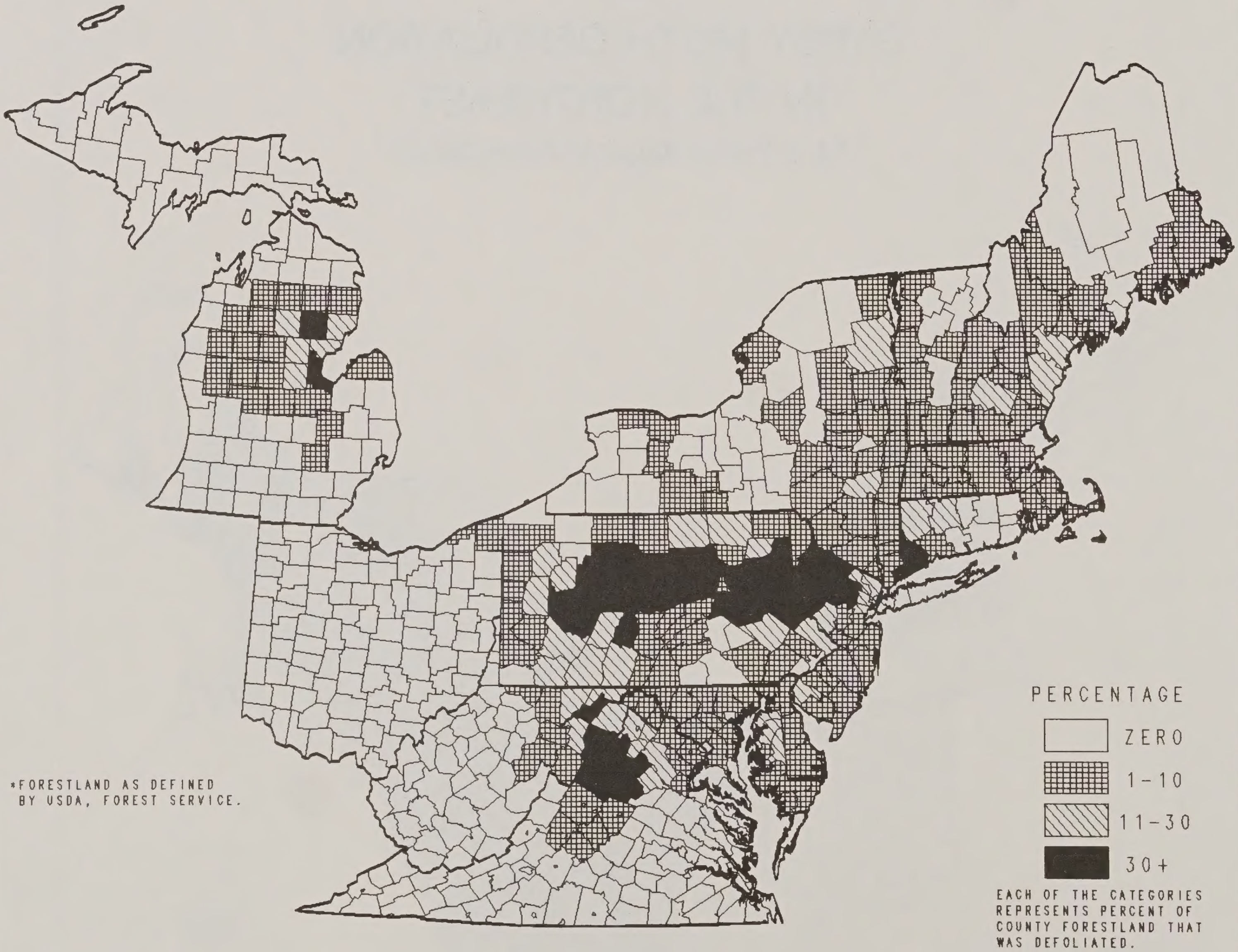
NORTHEASTERN AREA
State and Private Forestry

February 1992
Number 28

1991
GYPSY MOTH DEFOLIATION IN THE NORTHEAST
As a Percentage of Forestland*



1990
GYPSY MOTH DEFOLIATION IN THE NORTHEAST
As a Percentage of Forestland*



PREPARED BY USDA, FOREST SERVICE
FOREST HEALTH PROTECTION, MORGANTOWN, WV, MARCH 1992

TABLE OF CONTENTS

Page

FEATURES:

The Asian Gypsy Moth ---------- 2

Comparison of North American Gypsy Moth (NAGM) and Asian Gypsy Moth (AGM) ---------- 3

Non-Target Impacts of Dimilin and *Bacillus thuringiensis* ---------- 4

1991 Gypsy Moth Defoliation Acreages ---------- 6

Laboratory and Field Studies on the Effects of *Bacillus thuringiensis* on Non-Target Lepidopteria ---------- 7

Forest Service and APHIS Form National Gypsy Moth EIS Team ---------- 8

Upcoming Seminar ---------- 9

GYPSY MOTH NEWS is a service of the USDA Forest Service, Northeastern Area State and Private Forestry.

The NEWS is distributed quarterly to individuals and organizations. Products mentioned by name within articles are not necessarily endorsed by the USDA. Statements made by contributors do not necessarily reflect policy of the USDA. Use of graphics or reprints of articles should cite the GYPSY MOTH NEWS as their source.

Address correspondence to the Editor.

GYPSY MOTH NEWS
USDA Forest Service
Forest Health Protection
180 Canfield Street
Morgantown, WV 26505

Editor
Daniel B. Twardus

Managing Editor
Helen A. Machesky

Production
Melissa A. Emerson

Circulation
Stephen C. Smith

Graphics
Charles H. Coole

FROM THE EDITOR

The gypsy moth caused 4.1 million acres of defoliation in 1991. That's 43 percent less than in 1990. Populations plummetted in New Jersey, New York, Pennsylvania, Connecticut, Maryland, and West Virginia. This mid-Atlantic collapse is notable and will be reflected in reduced suppression acres in 1992 for those areas. Michigan and Virginia, however, continue to report record levels of defoliation reflecting the insect's unabated surge to the South and West.

Gypsy moth news for 1992 will see another Asian import--the Asian gypsy moth (see page 2). Not surprisingly, the import appears to have certain superior qualities over the North American brand (see page 4). The North American gypsy moth comes across as somewhat of a wimp compared to this import with its eagle-like females and its propensity for dispersal. Of course, it wouldn't surprise us if their larvae are better educated, as well.

Eradication projects for this new threat to the North American economy are planned in Tacoma,WA; Portland, OR; and Vancouver, BC.

Also in the news for 1992, will be the continued interest in developing a "containment" program to slow the southward spread of our eastern gypsy moth infestations. And, 1992 will bring a close to the Appalachian Integrated Pest Management program. We'll bring articles on both of these topics in future issues. Stay tuned--and check the label on that egg mass.

--DBT

LETTER TO THE EDITOR

Charles M. Brudowksy, U.S. Army Corps of Engineers, writes:

> **"To what extent has systemic injection to aesthetically valuable trees been developed for control of gypsy moth defoliation? I am interested in the methods and products utilized, effectiveness from a long term viewpoint, costs and its application to woodlot use."**

Dr. Richard Reardon, USDA Forest Service entomologist, responds:

ACECAPS, a form of Medicap Systemic Implantation Cartridge (Creative Sales, Inc., Fremont, NE 68025) that contain powdered technical acephate, an organophosphate insecticide, have been evaluated to protect foliage and reduce larval populations of gypsy moth. ACECAPS are registered by the U.S. Environmental Protection Agency and are approved for use by individual homeowners for control of the gypsy moth.

Inject-A-Cide O Units, a form of Mauget Injection Units (J.J. Mauget Co., Burbank, CA 91504) containing liquid acephate have also been evaluated to protect foliage and reduce larval populations of gypsy moth. Inject-A-Cide O units are not currently registered for this use.

Both ACECAPS and Inject-A-Cide O units provide significant reduction of gypsy moth populations and foliage protection over a wide range of conditions when compared to controls. Treatments should be timed for, or just after, budburst. Residue analysis of oak foliage sampled from trees treated with ACECAPS found that residue levels for both acephate, and its more toxic metabolite, methamidophos, peaked about 12 days after budburst (Webb, et al, 1988). It is unlikely that LC_{50} levels of acephate or methamidophos would be found in foliage for a second year in a deciduous species such as oak. Two consecutive yearly applications of ACECAPS further reduced the density of gypsy moth egg masses. Moreover, if neighboring untreated trees are heavily infested with gypsy moth egg masses, a second consecutive application would be justified. However, the responses of white oak to the implantation or injection process is more severe with regard to discolored xylem tissue than that for red oak or black oak. Also, with many white oaks, wounding produces the development of extreme radial shakes in the phloem tissue which can extend up to 4m about the specific implantation/injection site (Reardon and Webb, 1990).

Webb, R.E. et al. 1988. Suppression of Gypsy Moth Populations on Oak Using Implants or Injections of Acephate and Methamidophos. J.Econ.Entomol. 81: 573-577.

Reardon, R.C. and R.E. Webb. 1990. Systemic Treatment with Acephate for Gypsy Moth Management: Population Suppression and Wound Response. J.Arboric. 16: 174-178.

EDITOR'S NOTE: Dr. Reardon can be reached for more information by writing to: Richard Reardon, Appalachian Integrated Pest Management, USDA Forest Service, 180 Canfield Street, Morgantown, WV 26505.

THE ASIAN GYPSY MOTH

Tom Hofacker
USDA Forest Service
Washington, DC

and

Tom Flanigan
USDA Animal and Plant Health Inspection Service
Hyattsville, MD

It was mid-May in Vancouver, British Columbia. A Russian ship was docked to take on grain. The ship was covered with what looked like gypsy moth egg masses; thousands of them. The egg masses were hatching. Tiny caterpillars were blowing everywhere, even into the hair of the inspectors from Agriculture Canada who had discovered them. The caterpillars looked like gypsy moths. What was going on? How could gypsy moth egg masses get all over a ship that was in the water no where near an infested tree? The answer was that these were not the ordinary gypsy moths that those of us living in the Eastern United States and Canada have come to know so well. These were ASIAN GYPSY MOTHS!

In fact, this was not the first finding of Asian gypsy moths (AGM) on ships. AGM egg masses were first detected on a Russian ship that docked in Vancouver in 1981; only a few egg masses were found. Then in November 1990, a single egg mass was found on an empty Russian grain ship. In the next few months more ships were found infested. Some ships had more than a dozen egg masses. Then came mid-May when over 2,500 egg masses were found on another Russian grain ship. The possibility of inadvertent introduction of AGM into the United States and Canada became an immediate concern.

The States of Oregon and Washington intensified gypsy moth trapping around the ports of Portland and Seattle-Tacoma. As of mid-December, analysis of mitochondrial DNA from male moths trapped in British Columbia, Oregon and Washington shows that one moth from Oregon, six moths from Vancouver, BC, and four moths from Washington have a genetic pattern identical to the genetic pattern of AGM. DNA from other male moths caught in traps is still being analyzed. This capture of male moths with an AGM genetic pattern indicates that AGM is probably present in the U.S. and Canada, but it does not necessarily mean that there are reproducing AGM populations in either country.

What is the AGM? AGM is classified as Lymantria dispar, the same species that has defoliated millions of acres of hardwood forest in eastern North America. There are differences between AGM and NAGM however. While both the male and female are morphologically similar to our North American form (NAGM), the AGM female is generally larger and carries more eggs than the NAGM. The AGM male is sometimes larger and lighter in color than the NAGM. The difference of most concern is that the female AGM is a strong flier and is attracted to lights. Reports indicate that the AGM female can fly distances of 10 to 30 kilometers (one report says 100 km). It was the ability of female AGM to fly and their attraction to light that led to infestation of the Russian ships as they anchored in the ports of Nakhodka, Vladivostok and Vostochnyy.

There are other differences between the AGM and the NAGM. Only first instar NAGM larvae disperse, whereas both first and second instar AGM disperse. Where larvae of NAGM are uniform in color, larvae of the AGM are highly variable in color and tend to be more vigorous. Larvae of AGM feed and rest in the canopy or on the bole of trees. Pupation often occurs on foliage. AGM egg masses are laid on foliage, tree boles, rocks and on objects near lights. Main host trees of AGM in the Russian far east are larch, willow, and alder as well as oak.

Currently, two USDA agencies, the Animal and Plant Health Inspection Service (APHIS) and the Forest Service are being directed at identifying all suspicious moths trapped in Oregon and Washington. Eradication programs are being considered for areas with confirmed AGM trap catches. APHIS is developing a detection trapping program at major seaports and areas around the Puget Sound in Washington and along the Columbia River in Oregon and Washington. Surveys may include areas along the Mississippi River. APHIS has identified those ships that were in Russian ports during the summer months when they were at risk of being exposed to AGM. Shipboarding guidelines are being prepared for inspecting these ships. Regulations are being developed that may restrict or prohibit the movement into American waters of ships exposed to AGM. To sum up, AGM is being treated as a most unwelcome visitor.

Portland Meeting

An organizational meeting of the AGM was held in Portland, Oregon, December 18-19, 1991. This regional project team, consisting of personnel from USDA-APHIS, Forest Service, and officials from Washington, Oregon, Idaho, and California, developed a cooperative response to the AGM pest threat. Members of the Western Region Project Team created two specific groups to assist them: Science Panel and Public Affairs. The AGM Western Region Team and the Science Panel met in Portland, Oregon, January 22-23, 1992, to discuss results to date and develop action plans for Washington and Oregon in 1992. For additional details, contact Gary Smith, Team Leader, APHIS, Portland, Oregon, at (503) 326-2814.

COMPARISON OF NORTH AMERICAN GYPSY MOTH (NAGM) AND ASIAN GYPSY MOTH (AGM)

William Wallner
USDA Forest Service
51 Mill Pond Road
Hamden, CT 06514

Studies on the genetics of NAGM have revealed little variation within or between populations. This is consistent with the single introduction of a few closely related individuals which occurred from the initial Massachusetts establishment. The AGM, on the other hand, possesses considerable genetic variability. This is expressed morphologically in the great variety of larval colorforms, behaviorally in the female flight capability, and physiologically in the capacity of larvae to aggressively colonize a broad spectrum of hosts. A comparison of features of NAGM and AGM provide evidence of these differences (see Figure 1).

Differences between AGM and NAGM may require that the detection, delimitation, and control or eradication techniques developed for NAGM be modified for use with AGM. For instance, since females can fly 30 km or more, and mate before they disperse, male pheromone captures would indicate where infestations originated but could not determine where they would be the next year.

In addition, males of the AGM are attracted to the pheromone baits commonly used in traps in the U.S. These have been tested across the Russian Republic and in the Ukraine as well as in the People's Republic of China. However, the level of attractancy and efficiency of such traps as delta and milk carton to AGM are not known.

Life Stage	North American	Asian
Adult - Male	Strong flier Attracted to pheromone	Strong flier Attracted to pheromone
Adult - Female	Flightless	Strong flier(>30 km) Attracted to light
Larvae	1st instars disperse Uniform color	1st and 2nd instars disperse Highly variable color
	Main hosts: oak, birch, poplar, willow, alder	Main hosts: larch, birch, and willow as well as oak
	Larvae feed in canopy - night move to resting sites - day	Larvae feed at night and remain on the host during the day
	Late instars use artificial resting locations	Late instars use artificial resting locations
Pupae	Pupates in litter, tree trunks	Pupates on foliage
Egg masses	On tree bole, rocks, litter	On foliage, tree bole, rocks, objects associated with lights
	<5% premature egg hatch	5-25% premature egg hatch

Figure 1. Comparison of Features of North American and Siberian and Soviet Far East Gypsy Moth

NON-TARGET IMPACT OF DIMILIN AND *BACILLUS THURINGIENSIS*

Linda Butler
Professor of Entomology
West Virginia University
Morgantown, WV 26506

In gypsy moth suppression programs, the target of Dimilin (diflubenzuron) or *Bacillus thuringiensis (B.t.)* application is the gypsy moth larva. All other organisms negatively affected by the treatments are referred to as, non-targets.

Non-target impacts are of two types: direct and indirect. Direct impacts are those generally resulting in death of non-target insects and other arthropods. Indirect impacts are those affecting parasitic or predatory insects and predatory vertebrates that require the affected arthropods in their diets.

Because the modes of action of Dimilin and *B.t.* are different, some differences occur in the spectrum of non-target species. Dimilin is an insect growth regulator, specifically a chitin inhibitor which affects immature insects at a molt. In most instances it is ingested as an insect feeds on treated foliage. Previous studies have shown Dimilin to negatively affect Lepidoptera larvae (caterpillars) and some other leaf chewing insects (Martinat et al. 1988; Butler 1991), Lepidoptera adults (moths) (Sample 1991), some beneficial predators such as lady beetles and green lacewings (Ables et al. 1977), and some aquatic insects (Hansen and Garten 1982; Swift et al. 1988).

The *B.t.* used in gypsy moth suppression, *Bacillus thuringiensis* var. *kurstaki* is a type of naturally occurring bacterium which produces a toxin lethal to caterpillars when they consume treated foliage. Miller (1991) conducted a study in Oregon in which he found that *B.t.* significantly reduced total

abundance and species diversity of non-target caterpillars for two and three years post-treatment respectively.

Despite some knowledge of Dimilin and *B.t.* and their non-target effects, many gaps remain. Two on-going studies in West Virginia are designed to fill some of these data gaps.

In 1989 a study was begun at Fernow Experimental Forest near Parsons, West Virginia, on the impact of Dimilin on non-target organisms in small closed watersheds. From 1989 through 1991, baseline pre-treatment data has been collected in four watersheds. In 1992, it is anticipated that Dimilin will be applied to two of the four study watersheds. The study will be continued throughout the post-treatment year, 1993. A team of researchers from West Virginia University, Marshall University, Shepherd College, Fairmont State College, Georgetown University, the University of Pittsburgh and the USDA Forest Service are studying potential effects of Dimilin on arthropods in litter, streams and the forest canopy and impacts on mycorrhizial fungi, salamanders and insect pollinators. This study is significant for a number of reasons: (1) no data is available on Dimilin impact on closed watersheds, (2) no studies have been conducted previously in which three years of baseline data were available on the study sites and, (3) no Dimilin impact study has ever encompassed such a variety of canopy, litter, and aquatic organisms.

In 1990, a 3-year study was begun on effects of *B.t.* on arthropods which serve as the food supply for the endangered Virginia big-eared bat. This study is being conducted on 24 50-acre plots in Grant and Pendleton Counties in West Virginia. Sampling methods include black light trapping, malaise trapping, foliage pruning, and aquatic sampling. Baseline data was collected in 1990, *B.t.* was applied in 1991 to 12 of the study plots, and 1992 will serve for post-treatment data collection. Preliminary results from 1991 indicated significant impact on species richness and total abundance of caterpillars and moths in treated areas.

Reduction of arthropods due to Dimilin or *B.t.* application is critically important for a number of reasons. An undisturbed forest is composed of diverse species in complex interactions as herbivores, cavengers, parasitoids, and predators. Insecticidal treatments reduce this diversity. Various insect species are endangered or threatened, particularly Lepidoptera; these species are further jeopardized by Dimilin and *B.t.* sprays to which they may be highly susceptible. Dimilin and *B.t.* applications also disrupt food webs involving birds, bats, small mammals, salamanders, and other vertebrates. Insects, particularly moths and caterpillars, are virtually the only food taken by some vertebrates. Decline in insect food has been shown to lower nesting success of birds, reduce body fat, increase food search territory and cause birds to switch to less desirable and less nutritious foods.

LITERATURE CITED

Ables, J.R., S.L. Jones and M.J. Bee. 1977. Effect of diflubenzuron on beneficial arthropods associated with cotton. Southwest. Entomol. 2:66-72.

Butler, L. 1992. Current studies on non-target impacts of Dimilin on canopy arthropods. Proc. Ann. Gypsy Moth Review. Raleigh, N.C. December 4-7. (In press).

Hansen, S.R. and Garton, R.R. 1982. The effects of diflubenzuron on a complex laboratory stream community. Arch. Environ. Contam. Toxical. 11:1-10.

Martinat, P.J., C.C. Coffmann, K. Dodge, R.J. Cooper and R.C. Whitmore. 1988. Effect of diflubenzuron on the canopy arthropod community in a central appalachian forest. J. Econ. Entomol. 81:261-267.

Miller, J.C. 1990. Field assessment of the effects of a microbial pest control agent on non-target Lepidoptera. American Entomol. 36:135-139.

Sample, B.E. 1991. Effects of Dimilin on foods of the Virginia big-eared bat. Ph.D. Dissertation West Virginia University. 201pp.

Swift, M.C., K.W. Cummins and R.A. Smucker. 1988. Effects of Dimilin on stream leaf-litter processing rates. Verh. Internat. Verein. Limnol. 23:1255-1260.

1991
Gypsy Moth Defoliation

State	Acreage
Connecticut	50,154
Delaware	13,475
Maine	614,509
Maryland	75,197
Massachusetts	282,143
Michigan	626,689
New Hampshire	180,870
New Jersey	169,900
New York	175,960
Ohio	345
North Carolina	0
Pennsylvania	1,230,066
Rhode Island	0
Utah	0
Vermont	3,596
Virginia	616,200
West Virginia	112,900
TOTAL	**4,152,004**

Data obtained from GMDIGEST, Morgantown, WV (11/91)

LABORATORY AND FIELD STUDIES ON THE EFFECTS OF *Bacillus thuringiensis* ON NON-TARGET LEPIDOPTERA

John Peacock
USDA Forest Service
Northeastern Forest Experiment Station
Hamden, CT

Stephen Talley
County of Rockbridge
Lexington, VA

Taylor Williams
County of Albemarle
Charlottesville, VA

Richard Reardon
USDA Forest Service
Northeastern Area State & Private Forestry
Morgantown, WV

FIELD STUDIES

Bacillus thuringiensis (B.t.) is one of the insecticides considered effective for suppression of gypsy moth infestations, and it is considered to one of the most selective in terms of its effects on other insects. Although *B.t.* is touted to be "environmentally safe", there is a paucity of field data to support this claim, particularly as it relates to the effects of *B.t.* on native Lepidoptera. Increasingly, lepidopterists, environmentalists, the general public, and certain forest managers have expressed concerns that *B.t.* may, in fact, have a significant negative impact on non-target Lepidoptera. Although it has been stated that most lepidopterous larvae are present in the field long after *B.t.* applications (and therefore are not affected by early season gypsy moth spraying), and that the larvae of most Lepidoptera would be unaffected by *B.t.* because they are not canopy feeders, this may not be true for a significant number of species. In fact, we know far too little about the larval stages of most native Lepidoptera to safely make the above generalizations. Furthermore, we have little or no information concerning the indirect negative impacts that *B.t.* application could have on pollination by Lepidoptera, or the impact that *B.t.* applications could have on Lepidoptera that serve as food for other wildlife (birds, bats, etc.).

In an attempt to determine the effects of aerially-applied *B.t.* on non-target Lepidoptera, a field research program was initiated in 1991 in the Goshen Wildlife Management Area, Rockbridge County, Virginia. Cooperating in this research are: the USDA Forest Service (Northeastern Forest Experiment Station and Northeastern Area State & Private Forestry/AIPM); Rockbridge County, VA; Albemarle County, VA; the Virginia Division of Game and Inland Fisheries; the Virginia Department of Agriculture and Consumer Services; Washington and Lee University; and the Shenandoah Valley Agricultural Experiment Station. The *B.t.*/non-target program is a 3-year effort designed to determine if *B.t.*, applied at a rate (36 BIU/Ac) used in gypsy moth suppression programs, has an effect on populations of native, non-target Lepidoptera.

The first year of the Virginia program (1991) was a baseline sampling year, aimed at determining which species of lepidopterous larvae and adults are present in the ten 50-acre plots in the study area. *B.t.* will be applied to half of these plots in 1992, and larval and adult sampling will be repeated as in 1991. Post-treatment sampling will be conducted in 1993 to determine if any effects persist in the year following *B.t.* application.

Populations of non-target Lepidoptera will be monitored using larval and adult sampling during the period March to September for the three years of the study. Larval sampling involves collection of foliage samples (and associated larvae) from three levels in the forest: (1) forest canopy (18-22 m); (2) understory trees (4-6 m); and (3) shrub layer (20-25 cm). The foliage is collected in large plastic bags as it is removed, and is then taken to a laboratory for processing. Leaves and stems in each bag are carefully examined, and all lepidopterous larvae are removed, identified where possible, counted, placed in

plastic rearing cups, and reared to adults (if necessary to confirm identification). Larval sampling will be conducted 2-3 days prior to Bt application, and then 7 and 14 days after application. Using the numbers of larvae collected on these sampling dates, we will ascertain if there are any within-year (1992) and between-year (1993) effects on native Lepidoptera as noted by comparing the number of larvae of selected species found in treated and untreated plots before and after Bt application.

Adult moths will be sampled each of the three years of the study using a single light trap operated in the center of each plot twice per week from March until September. In 1991, the thousands of moths taken in light traps have been used to establish a voucher collection of pinned specimens, and to develop a base of information on species presence and abundance in each of the 10 plots. Light trapping will be repeated in 1992 and 1993 to determine post treatment abundance of moths in treated and untreated plots in the first and second year after Bt application.

LABORATORY STUDIES

Bioassays were conducted in 1990 and 1991 to determine the effects of Bt on larvae of selected native Lepidoptera under laboratory conditions. To date, 16 species (2 Geometridae, 3 Saturniidae, and 11 Noctuidae) have been evaluated in these assays.

Foliage to be subjected to larval feeding is treated with Bt in a spraytower apparatus that simulates the aerial application of Bt in the field. Following foliar treatment, larvae are caged on treated and untreated foliage and their survival and development is monitored. All larvae are evaluated in the instar that they would be at the time of typical Bt application in the field. Larvae that are highly susceptible to Bt infection die in a matter of a few days (similar to second instar gypsy moth larvae). Larvae that are less susceptible to infection die after a long period, or complete a delayed development. Non-susceptible larvae complete development at the same rate as larvae on untreated foliage.

Of the 16 species assayed to date, 5 (2 Saturniidae, 3 Noctuidae) are highly susceptible to Bt infection, 8 (1 Saturniidae, 2 Geometridae, 5 Noctuidae) are moderately susceptible, and 3 (all Noctuidae) are apparently little affected as the result of consuming Bt-treated foliage. Significant intergeneric differences in response to *B.t.* were recorded for one genus of moths, the *Catocala*. Based on the laboratory assays to date, we conclude that we cannot generalize about the effects of *B.t.* on larvae of native Lepidoptera. The effects appear to vary considerably between species and even between species within certain genera. In some species, early instar larvae succumbed quickly following consumption of *B.t.*-treated foliage, while in other species, early instar larvae seemed to be less affected. On the other hand, in those species where late instar larvae were assayed, most were able to complete development on *B.t.*-treated foliage. In one species, however, last instar larvae succumbed in just two days following consumption of treated foliage.

Laboratory bioassays will be continued in 1992, when an additional 10-12 species will be evaluated.

FOREST SERVICE AND APHIS FORM NATIONAL GYPSY MOTH EIS TEAM

Robert D. Wolfe
USDA Forest Service
Forest Health Protection
Radnor, PA

The USDA Forest Service and USDA Animal and Plant Health Inspection Service (APHIS) have formed a 5-member core team to review the Agencies' 1985 final environmental impact statement (EIS) for gypsy moth suppression and eradication projects and to prepare a new or supplemental EIS if necessary. The Forest Service is the lead agency and has located the team in the headquarters of the Northeastern Area, State and Private Forestry in Radnor, PA. If a new EIS is needed, it will take nearly three years to complete.

What exactly is an EIS? It is a detailed, analytic document which, according to the National Environmental Policy Act (NEPA), must be prepared "for major Federal actions significantly affecting the quality of the human environment." Gypsy moth

suppression activities that use pesticides are examples of this.

According to Federal regulations, an EIS must discuss the direct and indirect environmental affects of the proposed action and their significance. It must describe reasonable alternatives to the proposed action and their environmental affects. It must discuss ways to lessen adverse environmental affects and disclose any natural, historic, or cultural resources that would be depleted. It must also consider possible conflicts with other Federal, State, local, and Indian land use policies.

To determine the significant issues that must be addressed by this team, interested and affected people and organizations will be asked to participate. This process of public involvement is commonly called scoping and will occur later this year following publication in the Federal Register of a notice of intent to update the 1985 EIS. It will occur again in 1993 following draft release of a new or supplemental EIS. Comments received on the draft will be incorporated in the final document, which will be turned over to the Chief of the Forest Service and the Administrator of APHIS. They will then make the final decision on whether and how the action will proceed. Their decision will be explained in a notice called the Record of Decision.

The Forest Service will use this process to reaffirm or revise gypsy moth management policy on a national basis. Both the North American and the Asian gypsy moth will be addressed.

The team leader is John W. Hazel. Prior to this appointment Mr. Hazel was the regional silviculturalist of the Forest Service, Eastern Region and has held numerous forestry and management positions both within the Forest Service and in private industry. The APHIS representative is Thomas G. Flanigan. He is an entomologist and operations officer in the Plant Protection and Quarantine Division of APHIS and has extensive experience in gypsy moth eradication.

The team's NEPA specialist is Gary M. Peters, a wildlife biologist and planner formerly on the Francis Marion National Forest. The public affairs specialist is Jill Cherpack and the administrative assistant is LuAnn Hartmann. The core team will organize an interdisciplinary group of experts and support staff to conduct the analysis and manage the project on a national scale.

The current EIS and its Record of Decision have guided the Forest Service's cooperative gypsy moth suppression activities since 1986. Review of these policies has begun for several reasons. There is growing interest in forest health, forest stewardship, and urban and community forestry as reflected by the Forestry Title of the 1990 Farm Bill which gives state and private forestry much greater emphasis. There have been scientific and technical advances which may increase the options for managing this pest. In addition, there are continuing concerns for both the human health and environmental affects of pesticides.

Preliminary scoping indicates a few major issues that must be considered by the team: the possible persistence of some pesticides in the environment; the possible affects of some pesticides on non-target organisms; analysis of the no-intervention (no suppression) alternative; the environmental and social consequences of defoliation; and the nuisance factor associated with this pest.

If you would like to provide comments or information to the team, or assist in working on the EIS, please write to:

John W. Hazel, Team Leader
National Gypsy Moth EIS Team
USDA Forest Service
5 Radnor Corporate Center
100 Matsonford Road
Radnor, PA 19087

UPCOMING SEMINAR

The Metropolitan Washington Gypsy Moth Coordinating Committee is planning a one-day seminar about gypsy moth parasites. Speakers will be asked to comment on parasites currently established in the area, including field identification techniques; rates of parasitism; opportunities for parasite release; and other related topics. For further information about this spring seminar, contact Jamie Bartalon at (703) 358-6400.

The Coupon

Gypsy Moth News - Information Exchange Coupon
(Clip or Photocopy and Mail or FAX this coupon to us)

Our Mailing Address:

GM News
USDA Forest Service
180 Canfield St.
Morgantown, WV 26505

Our FAX Number: GM News, 304-285-1541

Use this Coupon to:

☐ Request information, or

☐ Ask a question, or

☐ Make a suggestion

Write your request, ask your question, or make your suggestion here:
(Attach additional pages if necessary)

____
____
____
____
____
____
____
____
____
____

☐ Please add my name to the GM News mailing list.

Your Name: ______________________________
Organization: ______________________________
Address: ______________________________
City/State: ______________________________
Phone: ______________________________